

Hummingbirds: Family Fun for Everyone

Hummingbirds are magical. In sunlight, they look like tiny winged jewels that fly in fast motion. Using a figure-eight wing pattern, hummingbirds can fly backwards, upside down, and even hover in mid-air.



A hummingbird drinking nectar

The ruby-throated hummingbird is the only kind of hummingbird that breeds here in New Jersey and the eastern United States. Each fall, they make a monumental journey to their winter homes in Central America. Then, in spring, they will gorge on tiny insects and nectar from flowers, putting on enough fat to give them the energy to make the return journey to where their lives began. They even fly non-stop across the Gulf of Mexico, a distance of 500 miles that takes almost a day! Can you imagine flying all the way from your home to North Carolina without an airplane?

The male ruby-throated hummingbird has a brilliant red throat. He returns to his summer home before the female to establish his territory. The female returns some days later than the male; she has an emerald green back with a silvery belly. Mating happens soon after the birds are back in their summer habitats. It is the female who builds a nest the size of walnut, lays two white eggs that look like jellybeans and has the sole job of raising the two tiny chicks.



Hummer in a nest

When full grown, ruby-throated hummingbirds weigh less than a penny and get their name from the sound of their wings beating in constant motion.

Both male and female hummingbird hearts beat about 1200 times per minute and even faster when migrating. It's like they live in fast motion. To support this high rate of **metabolism** the tiny birds voraciously gorge on insects and nectar from hundreds of flowers every day.



Male ruby-throated hummingbird



Female ruby-throated hummingbird

A hummingbird has an extremely long tongue that it can stick out far beyond its bill. To feed, the bird dips its forked tongue into a nectar-rich flower and flicks it in and out of the bill, up to 12 times a second. They will drink between one to three times their body weight in nectar every single day, not to mention having to feed their chicks. Check out their crazy tongues [here](#).



Figure 1 Hummingbird tongue

There's so much more to learn about hummingbirds. Maybe the best way to really get to know this bird is to pretend to be one. Let's pretend to be hummingbirds!

The Flying, Fluttering, Fearless Hummingbird

Hummingbirds are amazing. This tiny little acrobat of a bird can even fly backwards, upside-down, and hover like helicopters for refueling. Check out this [slow-motion video](#) to see how a hummingbird flies.



Ruby-throated hummingbird stopping for a meal

Can you guess how many times a hummingbird beats its wings in one second? Think about how long a second is and take a guess! Did you come up with an answer? The correct answer is 50 to 100 times per second! *And* they can dive up to 50 mph!

Activity 1: Flap Your Wings

Find your way outside to your yard or favorite park. Have a parent or guardian set a timer for 10 seconds. See how many times you can flap your "wings" in 10 seconds. Race against your siblings, parents, and other family members! Who can flap their wings the most in the time allotted?

Activity 2: Penny Activity

All you need for this activity is a penny! A penny weighs a little over 3 grams, and a ruby-throated hummingbird weighs about 3 grams on average.

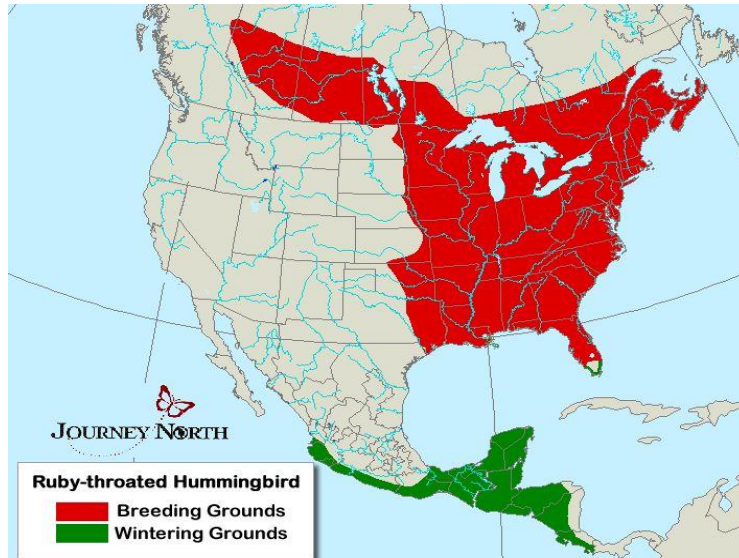
Hold a penny in your hand and close your eyes. Imagine you have a little hummingbird sitting in your hand! Can you believe that a bird can be so small?



A ruby-throated hummingbird weighs about the same as a penny



Ruby-throated hummingbirds are the only hummingbirds that **breed** in the eastern United States. Each fall, they make an enormous 2,000-mile journey to their winter homes in Panama and Central America. Every spring, these little birds fly back to where their lives began.

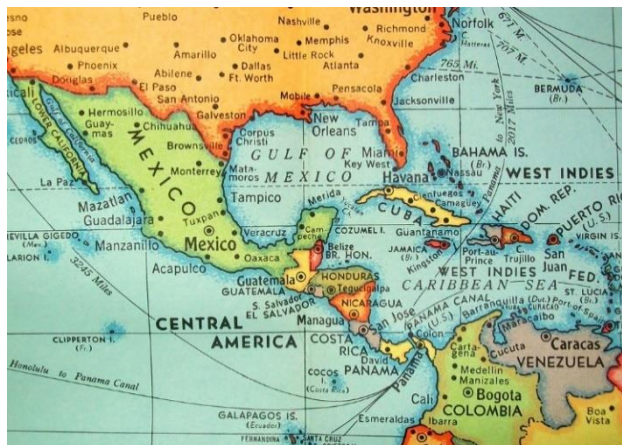


Summer and winter homes for ruby-throated hummingbirds

Activity 3: Journey Across the Gulf Penny Toss

Did you know that ruby-throated hummingbirds migrate non-stop over the Gulf of Mexico? That is a 500-mile journey! For this activity you will need 2 participants, a penny that will represent a hummingbird, and some space outside.

Have participants stand about 10 feet apart; each foot will represent 50 miles. This distance is modeling the Gulf of Mexico. See if you can toss the penny across the Gulf of Mexico to your partner on the other side, this is spring migration. If your partner catches it... congratulations - you can continue your **migration**! Toss the penny back to your partner for fall migration. If you drop the penny or if you can't successfully get the penny to the other side, then... uh-oh!



The Gulf of Mexico



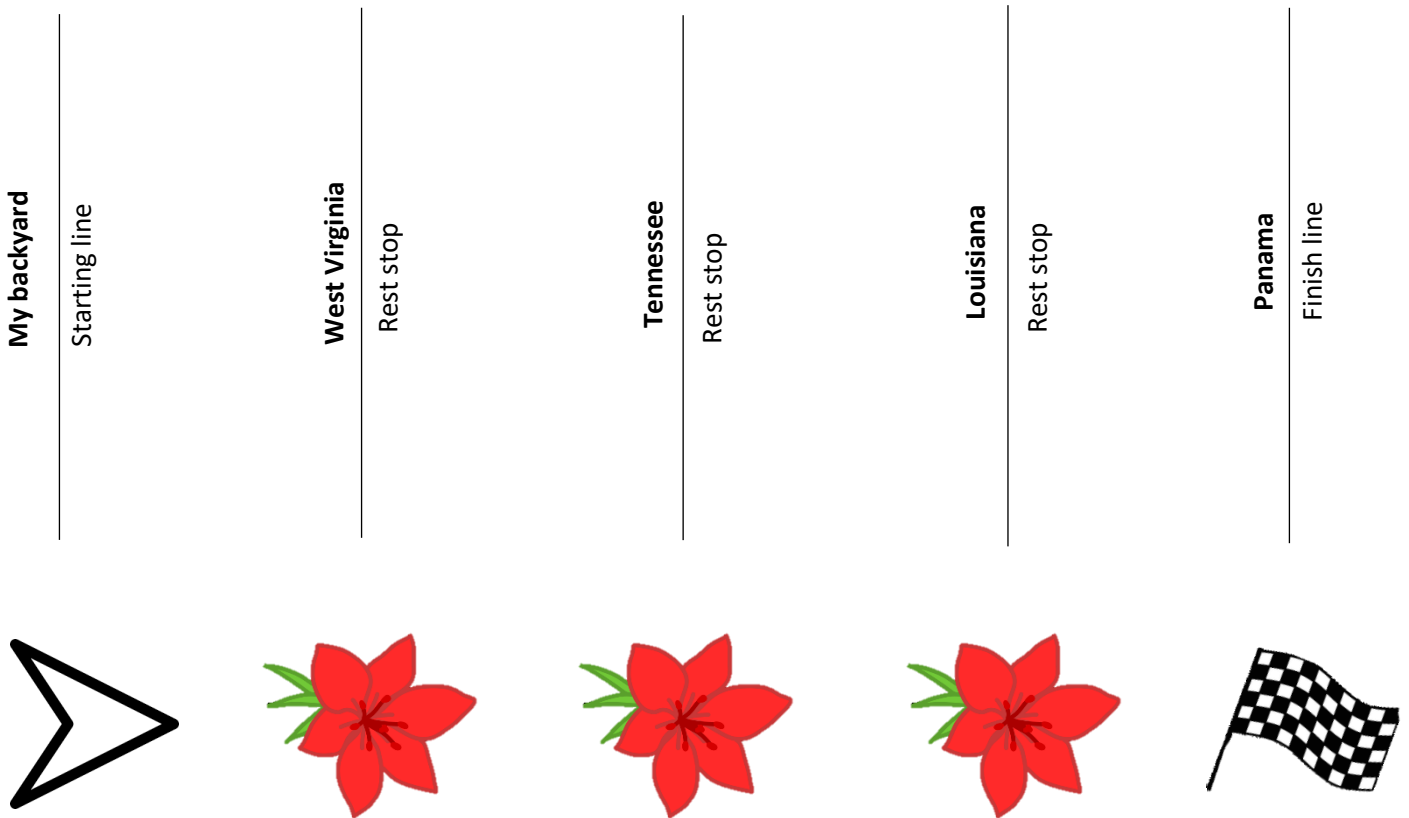
Activity 4: Hummingbird Races

Option 1: Migration Route/Geography

You will need at least 2 racers for this activity. Each racer will need a straw or party blower to represent a hummingbird tongue.

You will need to designate a starting line and a finish line. Have the starting line represent your backyard and the finish line represent Panama. Place 3 other rest stops in the course that are in between your starting line and finish line. Hummingbird racers will need to flap their wings to each rest stop. Once they reach the next rest stop, they will have to stop and pretend to take a sip of sugar water with their straw, because hummingbirds can't make it 2,000 miles without resting and eating. After they sip from their straw, they can continue to the next rest stop, continuing the same trend. Whoever gets to Panama first wins!

Example:



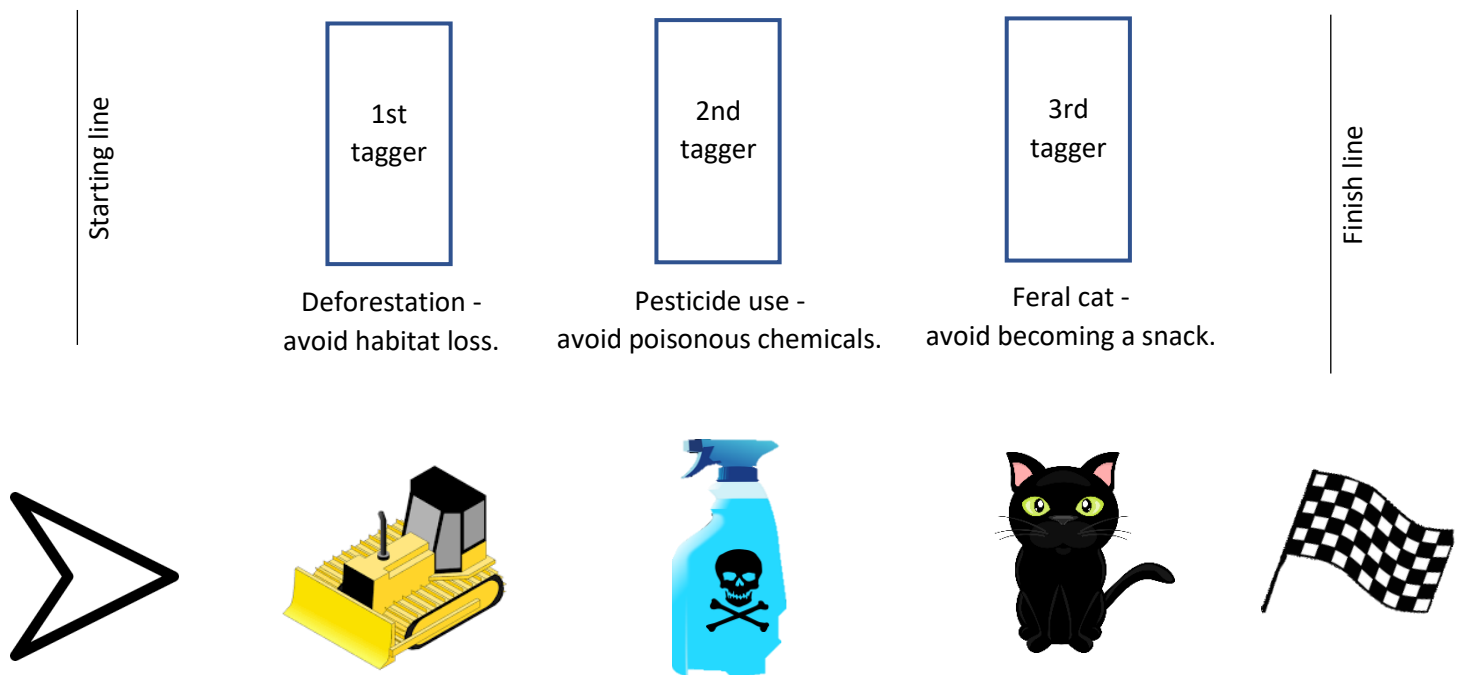
Option 2: Hummingbird Threats

This is an obstacle course that addresses threats to hummingbirds. You will need at least 2 racers for this activity.

You will need to designate a starting line and a finish line. In between these lines you will need to have a few people be the taggers, they will represent different problems that hummingbirds struggle with daily and they can only stay in their designated area. Hummingbird racers will need to flap their wings from the starting line to the finish line without getting tagged. If they fail to avoid an obstacle, they need to wait 3 seconds before continuing to race to the finish line. First racer to the finish line wins!

Use [this article](#) to help you choose the threats to hummingbirds that you would like to address.

Example:



21 Days in the Nest

Ruby-throated hummingbird nests are tiny. A female hummingbird makes a nest about the size of a large walnut or ping pong ball, 10 to 50 feet high in trees and shrubs with lots of branching. They build velvety, spongy nests with elastic sides that stretch as the two baby birds grow. They weave together pieces of twigs, plant fibers, and bits of leaves to build the nest cup and use spider silk as threads to bind their nests together and anchor them to a fork in a branch.



Eggs in the nest

For hummingbird eggs to survive they need to be **incubated** for about 16 days. Their mom achieves this by sitting on her eggs to keep them warm. After they hatch, the babies spend 21 days in their nest as chicks.

A photo journal of life in the nest:



By day 2, both eggs have hatched. They can't open their eyes yet, but they can beg their mom for some food at this point.



These hummingbird siblings are looking noticeably bigger by day 5! They need to eat more so they spend more time alone in the nest, snuggling up for warmth, while mom finds food.



On day 8, these hummers' beaks have changed color from yellow to brown, and their **pin feathers** are coming in nicely.



By day 12, these hummers' eyes have been open for a couple days already. If you look closely, you can see some green feathers starting to emerge.



Day 14 and these hummers are filling out their nest! Look closely at the photo, can you take a guess at which one is a day older?



Not so little anymore by day 19! These baby birds are popping out of the nest, sitting on top rather than inside.



We can assume this was the bird in the second egg that is getting ready to follow its sibling out of the nest and into the world!



Day 22 and we have an empty nest!

Want to see photos of all 21 days in the nest? Check out [this article](#) from Journey North.

Check out this cool [video](#) to see a hummingbird nest from eggs to fledglings!

Activity 5: Make a Hummingbird Nest

You can build model of a hummingbird nest. It is a fun activity to help us understand how small a hummingbird nest really is!

Gather your nest materials:

- **Craft glue**
- **Nest cup (base)**
 - 1 compartment from a cardboard or styrofoam egg carton.
- **Nest cup (base) covering**
 - Cotton pieces or cotton balls pulled into thin strands or wisps.
 - Bits of moss and lichens and pieces of tiny twigs gathered during a nature walk or any green leaf cut up into tiny pieces.
- **Nest lining**
 - Soft material like white dandelion fluff, cattail fluff, or a small piece of cotton will do if no natural fluff for lining the nest can be found.
- **Nest holder**
 - Small dead branch with a fork in which to sit nest.
- **Eggs**
 - Two tiny eggs the size of jellybeans. These can be two white jellybeans, tic tacks, small gravel stones painted white, tiny eggs created from clay or play dough and painted white, etc.



Figure 2 Eggs in the nest

Instructions: Pretend you are a hummingbird and “fly “around your backyard or any natural area you might visit with your family on a nature walk. Gather a small branch with a small fork in it and as many natural nest materials as possible on your “flight”. Now you are ready to begin building your nest.

1. Take your piece of egg carton (nest cup) and smear a little bit of glue around the outside and bottom.
2. Wind strands of cotton around the nest cup so it is covered all the way around (and on the bottom too). It will look like a little bowl of cotton.
3. Glue your pieces of moss, twigs, or tiny cut up leaves all over cotton bowl nest cup, let dry.
4. Place a dollop of glue in the bottom of the cardboard nest cup and take a pinch of your soft nest lining material like dandelion fluff or a cotton ball and glue it into the nest. Let dry.
5. Make your eggs: Paint your stones, or make your eggs out of clay or dough, or acquire two tic tacs, etc. Gently place them on the lining in the nest. You can glue them in if you don’t want them to roll around.
6. Place the nest in the fork of your branch.
Congratulations hummingbird, your nest is complete!



Make a hummingbird nest craft



Activity 6: Hummingbird Word Search

Created with TheTeachersCorner.net Word Search Maker

Hummingbird Word Search

Print this puzzle and find the words at the bottom of the page in the word search.

Z V A K D G P C I R B B R E F V F Y H Y
W B E H F T M N V O Y L H W S A L N T T
U V F R S W C G C R X L K J N L O H T U
M R A O C U Y O O Q S X P B S X W S N R
F S Z X B J O S K U Z X H O U W E M B S
C B S A B Z H Q Z W Y Z S X L N R H B B
O G T K F W U H M Z I E N E D U S S B I
J E K V D W M J W S N N Y O G O N R W B
W J R T M H M C Q E I C G A E G H E A Q
E U G N O T I I B W T L T S W B S H R J
Z Z M V N W N P R A H Z O Y I F K T D P
T Z V R E P G A T B O E P B G E B A H X
Q V V O C E B N G R V Z L P A B R E N Y
I H O R T N I A I Z E A Z B H T E F Y C
Q F S W A N R M I G R A T E F N E F C A
R B I D R Y D A S O B D E A Q A D M O U
O E F O S A O W E R C S K K Q Z E C R A
H Z R P S R K W Q L O C Y E H U D M C C
C O F Q Z S I D Y B U E F E P X S X X K
X N F X Z V Z O Z H W O P Y S N Y Q G L

BEAK
FEATHERS
HUMMINGBIRD
MIGRATE
PANAMA
WINGS

BREED
FLOWERS
INCUBATE
NECTAR
PENNY

EGGS
HOVER
METABOLISM
NEST
TONGUE

Vocabulary

Metabolism – The process of turning food and drink into energy.

Breed – The process of mating to produce offspring.

Migration – The seasonal movement of animals from one region to another.

Incubate – The process of keeping eggs at a specific temperature so that they will develop and hatch.

Pin feathers – An immature feather, before the top of the feather emerges from the shaft.

Summary

That was a lot of information about ruby-throated Hummingbirds! If you want to re-cap and learn some more facts about hummingbirds, check out this [YouTube video](#).

Caution: Feeding Hummingbirds is a BIG Responsibility

Parents and caregivers, here is some important information about feeding hummingbirds.

Adding a hummingbird feeder to your yard is a fun way to supplement hummingbird diets and to get a close-up look at hummingbirds, but they are a big responsibility. They must be cleaned every other day in hot weather to prevent the sugar water from turning to alcohol which can kill hummingbirds. **Don't get one unless you can take care of it!**

In New Jersey, if you are going to set out a feeder, then the time to do it is mid to late April. As soon as the birds return to their summer breeding grounds, they establish nesting and feeding territories. If you wait to hang a feeder till later in the season, they may not find it. Read more [here](#).

Hummingbirds have incredible vision and are attracted to the color red. The hummingbird feeder you choose should be easy to clean and have red parts to attract the birds by sight. An adult hummingbird eats its weight or more in sugar water each day and refuels at intervals of ten minutes or less all day long. Your feeder must be filled with a sugar solution that will provide enough energy to meet the demands of their high-speed metabolisms.

The solution you prepare to fill your feeder should be like nectar found in nature. When formulating your hummingbird mixture, remember that nectar in flowers is typically in the range of 12%-35% sugar (sucrose). To make your own hummingbird nectar, the usual recipe is **4-parts water to 1-part sugar or about 20% sugar. That's ¼ cup sugar mixed in 1 cup of water. Never use honey to make hummingbird food as bacteria and fungi thrive in honey water. Red food coloring or dyes should never be added to the nectar; it can be dangerous to the birds! Just table sugar and water are the best choice. During cold or rainy conditions when the birds need more energy, it is helpful to make the mixture with ½ cup of sugar per cup of water.**

On cool days in spring when the birds are not draining the feeders daily, you can leave the nectar mix in the feeder for 4-5 days or until the mix starts to cloud up. **As the days get warmer, the nectar mix needs to be replaced every 1 to 2 days to prevent the sugary water from fermenting and turning to toxic alcohol. Your birds won't just get drunk, they will die if they drink it!**

It is also critically important to keep the feeders clean. When you refill, you should inspect each feeder, scrub with a brush or sponge and clean any parts where mold, ants and dirt may have accumulated. Be really careful about where you hang your hummingbird feeders, as some cats have learned to lurk in the shadows waiting to snatch your precious jewels!

Make Your Own Hummingbird Feeder

If you don't have a feeder and don't want to purchase one, you can make one! If you are the handy sort, there are many resources on the web to help you make your own feeder.

Example on YouTube

Pinterest has a ton of feeders for inspiration

Here is one to make with kids.

They will need your help, but it's relatively easy to make out of recycled materials!

Additional Resources

Duke Farms hummingbird video by Environmental Educator Mrs. Bird

Journey North Program has an insightful resources on hummers

All About Births guide on ruby-throated hummingbirds

Watch a live hummingbird cam [here!](#)

Learn more about feeding hummingbirds

Learn more about hummingbird nectar

Rutgers University's write-up on attracting ruby-throated hummingbirds to your yard

Attracting Hummingbirds, Penn State

Creating Inviting Habitats for Birds, Butterflies, and Hummingbirds

If you want to plant a hummingbird garden

The best nectar plants for hummingbirds are native plants. Although many local nurseries carry useful flowering plants, they do not always have a large selection of native plants. Here are some resources for native plants:

The Native Plant Society of New Jersey is a great resource to help you find where to buy native butterfly plants or to get more information

Jersey-friendly yards

PDF of native nurseries

Note: Some hummingbird photos courtesy of the Macaulay Library, Cornell Laboratory of Ornithology, Ithaca, N.Y., and Journey North from the University of Wisconsin-Madison.